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ABSTRACT

To talk about human development requires some point of view which will allow the visualization of the various parts and processes within the context of an organized unit. Social policies will be formulated differently, depending on the assumptions one holds about people. The concept of an open system is used in this presentation to illustrate that point of view. Briefly illustrated are some implications for social policy when one views the person as a complex open system existing through transactions with multiple contexts, and when one adopts positive development as the highest priority human objective, with remediation as the backup system. (RC)

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SOCIAL POLICIES, THE DESIGNED ENVIRONMENT, AND HUMAN DEVELOPMENT

A paper prepared for the Third Biennial Conference on Ecological Factors in Human Development International Society for the Study of Behavioural Development, July 13-17, 1975, University of Surrey, Guildford, England.

A person functions as a unitary being, continually evolving and striving to cope with life and to live satisfactorily. However, to serve the purposes of analytical science, scholars have taken people apart to more fully understand different attributes, (e.g., studying biochemical properties, the circulatory system, conceptual functions, or motor capabilities). However, a person cannot be understood just as a collection of parts. Therefore, to talk about human development requires some point of view which will enable us to see the various parts and processes within the context of an organized unit. Social policies will be formulated differently, depending on the assumptions one holds about people.

In this presentation, the concept of an open system is used to serve that purpose. Time permits only a very sketchy summary of this view.

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The Person — An Open System

The term system is used to mean an arrangement of things and circumstances, related or connected by a set of principles and processes so as to produce unitary or coordinated functioning. The term open refers to a system that functions through and is dependent upon specifiable kinds of transactions with the environments in which it exists. This view will be summarized around four components — mechanism, coordination, activity, and contexts.

Mechanism - The Biological Life System

A system requires structural or resource components which limit but don't strictly determine what the system might do, i.e., its potential. The biological life systems are the structural and resource components of a person. For example, our respiratory system can function in our atmosphere, but not others. Our biochemical processes can produce or transform some substances, but not others.

Coordination - The Cognitive Systems

A system requires coordination of components and processes to produce unitary functioning. The same components and processes must be interrelated in somewhat different ways, depending on which purposes the system is to serve. In a person, the cognitive systems primarily serve this function, although some coordination is genetically programmed. Coordination has three aspects, all of which are served by a person's memory bank.

Direction. Direction involves the specification of the conditions to result from the system's activity. Through some types of thought processes, objectives, goals or ends are defined toward which behavior is to be directed.

Control. Control of the functional interrelationships among the components, and the rules and processes to guide their activity in the direction specified, is necessary. The conceptual processes of planning, reasoning, decision making and coordination or action control both the organization and conduct of activity.

Regulation. A system cannot coordinate its activity effectively unless there is some way of comparing the events which are occurring against the conditions sought, and triggering necessary adjustments in the system's activity. Through patterns of evaluative thoughts, comparative observations and judgments occur and revisions in activity are generated. Arousal-emotion functions regulate energy expenditure and motivational levels, increasing the intensity or frequency of other functions.

Activity and Information - The Transactional Systems

Instrumental activity is essential if the system is to obtain from its contexts the consequences to which it is directed.

Activity. Activity is the visible part of a person's functioning, involving the manipulation and use of the environment through behaviors like walking, talking, eating, breathing, writing, or manipulating objects.

Information. Information is essential if effective coordination of activity is to be possible. Information feedback comes both from the environment and from the biological results of the activity itself, through various senses such as vision, hearing, touch, temperature, or movement.

Contexts - The Environmental Systems.

An open system exists and functions, and can be understood, only in terms of the environments with which the system carries out its transactions. An environment impoverished of air, food, human relationships, or one which produces pain, fear, or love will make a big difference in how a person will develop and function.

The effective examination of the influence of ecological factors on human development requires some systematic way of describing the contexts with which people carry out their transactions. No generally acceptable classification approach is available and this issue deserves sophisticated attention (Sokal, 1974). There are a variety of possibilities to which attention has been given, such as proximity (e.g. Bronfenbrenner, 1974) or designed environments (e.g. Studer, 1969).

Implications

One important reason for summarizing this view as a starting point, is to emphasize that different ecological factors occurring in different patterns, (i.e., different environments) may directly influence different attributes of a person and have later second or third order effects on other attributes, because of their

systematic relationships. Too much of the work in some intervention fields, such as psychotherapy, does not recognize this complexity and tends to assume that one intervention strategy will serve many if not most purposes (e.g. Ford and Urban, 1963). For effective policies and programs, it is necessary to seek to become more specific about the particular consequences of particular arrangements of events on particular components of the system called a person, and how changes in one component may reverberate in other components (Ford and Urban, 1967).

Another important implication is that different components may develop and change at different rates, and have system-wide consequences. For example, a person's body may grow to be that of an adult, while the cognitive systems are still like those of a child. Consideration of human development across the life span requires attention to differential developmental patterns both among and within persons, and as effected by different contexts (e.g., Studer and Barton, 1974).

In summary, viewing the person as a complex open system makes it evident there are different points at which the system might be influenced, that different factors might be more or less effective in influencing different parts of the system, and that one component of a person cannot be influenced without there being effects in other components. Different patterns of ecological factors will influence different aspects of human development in different ways at different phases of development. That generalization seems so obvious, and yet it is amazing how frequently it is overlooked in policy and program development.

Social Policy Implications

What kinds of social policies, programs, facilities, community arrangements, or professional developments would result from such a perspective?

Remedial, Preventive, or Developmental Priorities.

In the broadest sense human development means enhancing the properties of this system called a person and the quality and effectiveness of the transactions between persons and their contexts. This perspective leads to a reversal of the typical priorities reflected in social policy. Except in one realm, education, the first priority in most human services programs is remedial. For example, we have great investments in professional personnel, physical plants, and technology, focused on helping people recover from difficulties. It is a kind of firefighting strategy. We wait at the firehouse until the fire develops and then we run out and squirt water on it to try to put it out, or frequently we wait for someone to bring the fire to the firehouse.

There is no question about the importance of remediation. When people are in crisis, helping them to recover is the human thing to do.

However, in some ways, it is a never ending and perhaps self-defeating approach as the primary policy. For example, the pain and misery of an illness, even if a person recovers, is a terrible thing to have to bear. An illness afflicts not only a person, but also those in intimate contexts with the person, such as family members. Frequently there are permanent

residual damages which handicap and restrict people the rest of their lives. Moreover, the general problem is never reduced or eliminated. It simply afflicts different persons year by year.

Therefore, a strategy of prevention evolved, i.e. attempts to identify particular types of difficulties that are widespread, to identify the conditions producing each type, and to develop ways of altering those conditions to prevent the difficulty in the future. For example, at the turn of the century, purification of the water supply in Philadelphia, Pa., reduced typhoid fever from 8 to 10 thousand cases a year to 400 cases a year in two decades (Ford, 1974). Visualize the individual misery that did not occur, the family stress or disintegration that was avoided, the medical personnel that could be used for other emergencies, the facilities that did not have to be developed and so forth.

In recent decades, the third and highest social goal of cultivating the best possible development in people began to emerge. In the long haul, this is probably the most constructive and least costly alternative of all since a healthy, effective happy person (or community of persons) will be less susceptable to all kinds of difficulties, including many whose origins or causes we do not understand. For example, T. T. McGill (1955) has reported data showing a major and steady decline in death rate among people living in England and Wales between the mid-1800's and mid-1900's. Some of this decline may be attributed to remedial programs and some to preventive measures such as immunization. However, the progressive increase in

quality of living, correlated with the advancing social and industrial revolution of that period was probably the most important influence.

The concept of human development, then, reverses the typical priorities. The most fundamental objective is the promotion of the effective evolution and functioning of all of the components of this whole system called a person. Prevention of specific difficulties becomes the second priority and remediation is the backup system, essential when the first two approaches are ineffective. The objective of human life is not simply to survive, but to live meaningfully, creatively and well.

Strengthen the Basic Unit

The basic unit is a person, composed of subcomponents functioning in systematic interactions with one another, each dependent upon the other. Policies and programs should cultivate the strength and effectiveness of that unit. For example:

Biological Health. One focus should be upon cultivating the strongest possible development of persons' biological life systems. What are some of the attributes of such a policy approach? The first would be to get the new person off to a good start. Therefore, policies and programs directed toward securing the most favorable developmental contexts between conception and birth, including delivery of the infant, are crucial. Fetal or birth damage are not infrequent occurances.

The period of infancy, childhood, and adolescence is a period in which the biological life systems are developing to their fullest adult strength and potential, and policies and programs should facilitate the healthiest development. Good nutrition, adequate exercise, sufficient sleep, and a clean and safe environment provide the primary conditions for the strongest development of biological life systems. Once physical maturity is reached, the focus shifts from further development, to conditions which facilitate and maintain the continued most effective biological functioning. Moreover, healthy adults are more likely to produce healthy infants, so there is a "snowball" effect.

What differences from remedial approaches would such developmental strategies produce? The type of facilities needed would differ. For example, health promoting family housing and neighborhood family recreation and exercise facilities might be built in contrast to hospitals. The type of programs would differ. For example, family planning and pregnancy care, parent education and training, effective nutrition, and social facilitation to encourage healthy exercise might be a focus, rather than such things as diagnosis, medication, or surgery. Different professional people would be needed, e.g., consultants and trainers for cultivating effective living patterns, in contrast to specialists in diagnosing and trying to remedy dysfunctions.

Programming the System

Developing and maintaining a healthy organism is not really an end in itself but it provides the essential base from which the other interacting components of the system can evolve into the humanness of thought, feeling and action we call a person. Most biological life systems appear to be directed, coordinated, and regulated by built in genetic programs, which can be modified only slightly, if at all, through learning. However, most of the other functions of the person appear to be programmed far more by the effects of experience than by genetic patterns. This programming of personal functioning through experience is often a byproduct of activities aimed at other objectives. For example, different approaches to child nutrition to achieve healthy physical growth and development will cultivate different attitudes and habits of eating. Because a person functions as a unit, an effort focused on one component of a person will affect other attributes as well. That is too often not recognized or taken account of. Moreover, the same circumstances may be favorable in one developmental period and not in another (e.g., for some people, particularly blacks, milk appears to be a useful and desirable food in the early stages of development, but as they mature they lose certain digestive characteristics and milk then becomes noxious to digest). The patterns of living people develop, or of which they are a part, may be self-damaging or self-destructive. Specific attention to ways of programming effective patterns of living is desirable.

The Relevance of Values. It is essential to recognize at this point that the human system can be programmed in a variety of different ways, even though there appear to be some innate boundaries or limits on this potential variability. For example, a person may come to emphasize goals of obtaining material possessions, or of human interactions. Persons may select means for accomplishing their goals which exploit, hurt, or destroy others or which treat others in an egalitarian, collaborative way. They may cultivate some information collecting skills, such as reading, but give less attention to others, such as touching.

If follows from this that we cannot talk about human development without dealing with the question of which kinds of development we consider most desirable or most important. Humans have acquired increasing capability to design environments by which one set of characteristics and properties of persons, or another set can be enhanced or limited (Studer, 1971). Scientists may convince themselves that they can avoid this issue of values but professionals or politicians, whose responsibility it is to design social policies and effective programs to suit human purposes, cannot. Some people implicitly or explicitly assume that there is a system and order in the environment which will, if undistorted in training, cultivate the best properties of the person (e.g. Rousseau in Emile). Some parents assert that they try to avoid imposing their values on their children because they want their children to choose their own values. The fact is that in a complex industrial society, multiple values are built

into the multiple contexts in which we live and through which we move in different stages of life. When the social and physical environments around us are dominated by human design, then the values are programmed and imposed on us by those environments, and we had better be quite clear and explicit about which ones we wish individually and collectively to try to promote. Different values lead to different policies and programs. We need to develop ways of assessing the social consequences, both to understand what's happening and to evaluate the impact of social policies (e.g., Sheldon and Parke, 1975; Christian, 1974; Harrell, 1973).

Transactional System An open system, including a person, can exist, function, and grow only through transactions with an environment. The cry, the waving of arms and feet, the eye movements, sucking with the mouth, are the first primitive attempts to explore and manipulate the environment and to obtain consequences from it. If we want to cultivate the greatest capability in these transactional behaviors, specific training programs might be desirable. For example, specific motor training programs have been developed for damaged infants and children (and even for rehabilitating adults), but we have not really focused on basic early training to cultivate the most desired motor patterns and skills in healthy infants and children. Similarily, explicit training programs might cultivate effective information collecting capabilities through basic sensory and perceptual skills.

Cognitive and Arousal-Emotion Systems. Throughout life, stimuli from the environment impinge upon the person, leaving their traces, and our memory data banks begin to fill up. Perhaps even more importantly, patterns for organizing, processing, and categorizing information seem to begin developing quite early. As these basic patterns evolve they begin to shape what can develop in the future (e.g., Miller, et.al., 1960; Brunner, et.al., 1966).

For example, habits of attending to some things and ignoring others develop. Some information is retained and some filtered out. We come to react to some events with fear and to others with pleasure. We develop categories within which to organize information and then twist new information so that it will fit into our categories. We develop strategies or frameworks within which to interpret information and to design courses of action, and then constrain our future options by the strategies we have acquired. For example we might learn a "minimize the risk" strategy, or a "seek a novel experience" strategy. Perhaps we should give our primary attention, at least in the early years, not so much to information learning, as to the development of fundamental cognitive and emotional strategies for handling, organizing and utilizing future experiences.

In general, we permit all of this to happen with little forethought and planning. Children are being influenced (trained) all the time in the contexts in which they live through television, through the behavior of members of their family, through their neighborhood experiences, etc. Industrial societies are complex designed environments. Social policies to cultivate human development

must recognize that we are, therefore, constantly intervening in peoples lives. Since we are designing the social and physical environments in which we live, and shape ourselves with those designs, we had better be much more explicit about the shape we want to end up in.

Social Policies Concerning Contexts.

Our complex industrial society is built on the economic principle of the division of labor. Each of us is to specialize in something which we then sell to one another. I am a lawyer; you're a dentist. You take care of my teeth; I'll take care of your contracts. One consequence has been to cultivate an array of professional specialists and professional guilds. For example, we have specialists who take care of our eyes, some who will teach our children, and some to straighten out marital conflicts.

Obviously, it would be inappropriate to call for a repeal of this principle in an industrial society; it is valuable and essential. It is my view that we have extended it's application in ways which are producing undesired results, which may deemphasize rather than promote our humanness.

For example, people as open systems carry out transactions with their environments to achieve selected results. It is desirable to cultivate these properties of self direction and self regulation. However, industrial societies encourage exactly the opposite. People have to put themselves in the hands of a specialist for more and more attributes of their lives. Each specialty becomes something like a priesthood with its own protected set of knowledge and skills.

Moreover, this fragmentation of people and their problems in professional specialization ignores the integrated and unitary functioning of a person in transaction with multiple and changing contexts. For example, a physician may treat a bleeding ulcer with bedrest, medication and controlled diet and send the patient home with admonitions to eat more carefully and to avoid stress. However, the ulcer may be a manifestation of excessive smoking and drinking, of working in a job in which the person is harrassed regularly by an unreasonable supervisor, of living in a home where marital relationships are increasingly estranged, and where serious difficulties exist with the children. That biological dysfunction, or some other difficulty, may recur unless it is dealt with in this larger context.

It follows, therefore, that the design of community services for human development must be developed to produce a correlated approach rather than the current fragmented, overly specialized, approaches.

Even so, most of the services and professional experts that exist have evolved to serve the purpose of highly specialized remedial strategies. They may not well serve human development policies without drastic revision of the institutional and professional structures of support to which they have become accustomed. Moreover, if our approach is to just evolve another cadre of specialists, the costs may be excessive and some of the results counterproductive to the objective of cultivating competent, self-directed, and self-regulated persons. Therefore, to deal with persons and their development, not just symptoms and their remediation,

new educational approaches and new types of community contexts and service delivery systems are needed.

The Family as a Primary Context. There is a context which has promotion of human development as one of its primary functions, which exists in most cultures, and which has powerful influence on most people's development. That context is the family unit. I suggest that we should focus on cultivating the family unit as the first and primary source of developmental programs. Examples of such an approach have been developing in recent decades (e.g., Guerney, B., 1966; Guerney, L., 1974). Social policies which promote professional guilds and their institutional contexts to do things to and for people, rather than to cultivate increasing capability in people to "do for themselves", deny and tend to destroy a basic human characteristic, make each person more vulnerable to the coercion and control of others, and increase costs.

With such a social policy approach; we could develop programs which would treat persons as functioning units in their natural contexts, not as a collection of pieces and parts; we could cultivate a greater sense of self-direction, self-control, and self-regulation; we could have much more elaborate programming at lower cost; and we could utilize the strength and influence of a key primary social group.

New Views of Community Design. The perspective sketched in this paper might support new approaches to the design of communities. In a paper on new towns and leisure service systems,

Russell Ford (1974) has developed some implications. He argues that in industrial society we have segmented our communities into parts where we work, parts where we play, parts where we live, parts where we shop, etc. and have tried to tie these together with transportation arteries. In addition, we have segmented our use of time so that there is a time to work, a time to play, etc. With such a design, we place great restrictions on our freedom and flexibility for living, and on the nature and extent of family and community interactions.

Could we conceive of alternate community designs which would facilitate greater personal freedom and flexibility, and promote certain desired patterns of interaction and types of human development?

For example, would it be possible to promote greater flexibility in work schedules and/or jobs? Might some jobs be designed so a person could go to work and leave anytime as long as they worked a certain minimum number of hours a week, or completed specified tasks? Might a firm avoid building a large new office building by installing computer terminals, telephone lines, and mechanisms for transmitting documents to the homes of many white collar employees, connecting them to a smaller central facility. Think of the impact such arrangements might have on personal, family, and community life styles.

Present day communities are not designed to fit the nature of human beings or human development objectives. Their design is largely dictated by economic and engineering criteria. But,

alternate approaches are feasible and potentially more appropriate to human development.

In summary, I have tried to illustrate some implications for social policy when one views the person as a complex open system existing through transactions with multiple contexts, and when one adopts positive development as the highest priority human objective, with remediation as the backup system. I hope this limited presentation is sufficient to provoke both your thinking and imagination. I for one have been working for nearly ten years now to create a College of Human Development oriented with this view.

We shape our world as well as being shaped by it. Therefore, we should try to be clear about the kind of people we want to be and the kind of world in which we want to live. If we are shaped by our environments, and if many of those environments are designed by us, then we intentionally or unintentionally shape ourselves. We can choose our future, and try to create it, or we can deny that our shaping of our human ecology shapes us, and blame what happens on someone else.

A paper prepared for the Third Biennial Conference on Ecological Factors in Human Development International Society for the Study of Behavioural Development, July 13-17, 1975, University of Surrey, Guildford, England by Donald H. Ford, Dean, College of Human Development, The Pennsylvania State University.

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